Human Factors

research and technology division

Prospective Memory

Objective

In aviation, as in many workplace and everyday settings, people must remember to perform intentions that are deferred; for example pilots must remember to follow ATC instructions for changes in fight path that are to be made later in a flight. Remembering to perform deferred intentions is called prospective memory. Many memory errors in real-world operations fall into this category, yet only recently have scientists begun studying the

Approach

We are analyzing NTSB accident reports and ASRS incident reports to characterize prospective memory demands and the circumstances that contribute to errors. These analyses will guide laboratory experiments and theoretical modeling in which we are collaborating with university scientists seeking to elucidate the cognitive processes involved in remembering to perform intentions. The laboratory studies will allow us to design techniques individuals can use to reduce vulnerability to this form of error. These studies will also provide a foundation for guidelines for operational procedures to improve human performance in prospective memory.

Impact

Our findings will alert the operational community to the nature of this seldom-recognized form of error, and they will provide guidance on training techniques and operating procedures to reduce the occurrence of error. The net result will be safer flight operations. These findings will also be applicable to a wide range of workplace settings.

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URL: http://humanfactors.arc.nasa.gov/ihs/flightcognition/